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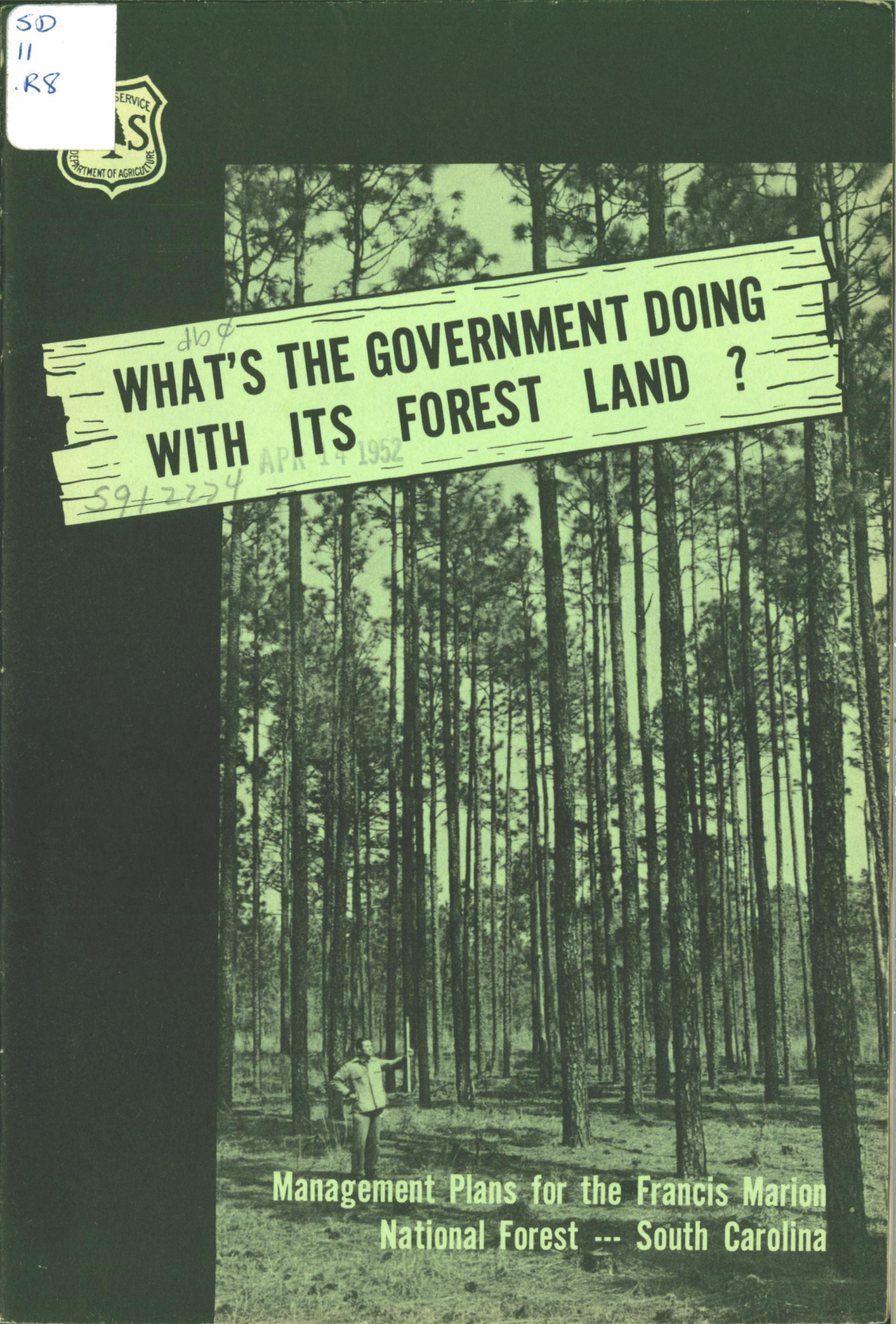

WHAT'S THE GOVERNMENT DOING WITH ITS FOREST LAND ?

APR 14 1952

Management Plans for the Francis Marion National Forest --- South Carolina

FRANCIS MARION NATIONAL FOREST

South Carolina

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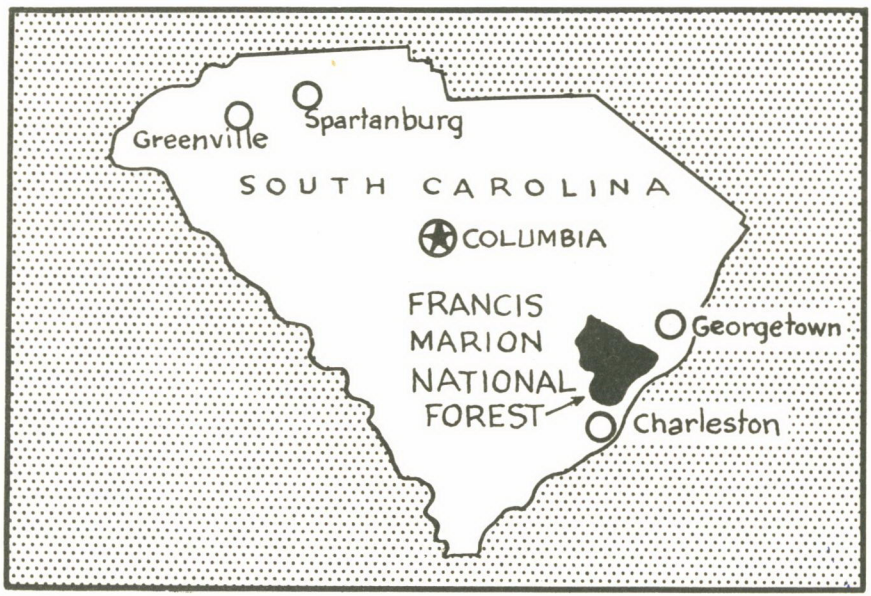
What's the Government doing with its forest land?

This is not an unusual inquiry. Many people ask it. Many people know that the United States Government bought over 245,000 acres in Berkeley and Charleston Counties, most of it in 1936. Many know that the area is called the Francis Marion National Forest. Lumber Companies, pulpwood dealers, and many others know that timber is sold, but most people do not know how the Forest Service is managing this Forest and providing for future timber supplies.

The question is an entirely proper one. Everyone should know how the Francis Marion National Forest is managed, because the Forest is owned by everyone. Especially the people of Berkeley and Charleston Counties should know, because the Forest is an important link in the industrial and rural life of those counties.

"What's the Government doing with its forest land?"

That is what this booklet is to tell.



THE PURPOSES IN MANAGING THE TIMBER

"....to furnish a continuous supply of timber for the use and necessities of citizens of the United States."

This is the way the basic instruction from the Congress reads regarding the management of National Forest timber. To insure that "continuous supply" is an important obligation of the Forest Service of the Department of Agriculture, which is entrusted with the management of the national forests. The "continuous supply" requires a look into the future, based on the facts of the present, and the preparation of a plan to follow. This plan is called the "management plan." It is prepared by the local foresters, approved by the Regional Forester and by the Chief of the Forest Service. It is a firm guide for action. About every ten years the plan is revised, to keep up with the changes of time. The first plan was prepared for the Francis Marion National Forest in 1937, soon after the Forest was established. The plan was revised in 1950. This booklet is about the 1950 revision.

The management plan states its intentions.

The first is to grow high-quality sawtimber. To do this, it is necessary to build up the growing stock of trees which will produce this sawtimber, by removing the less desirable trees and using them for sawtimber, poles, or pulpwood.

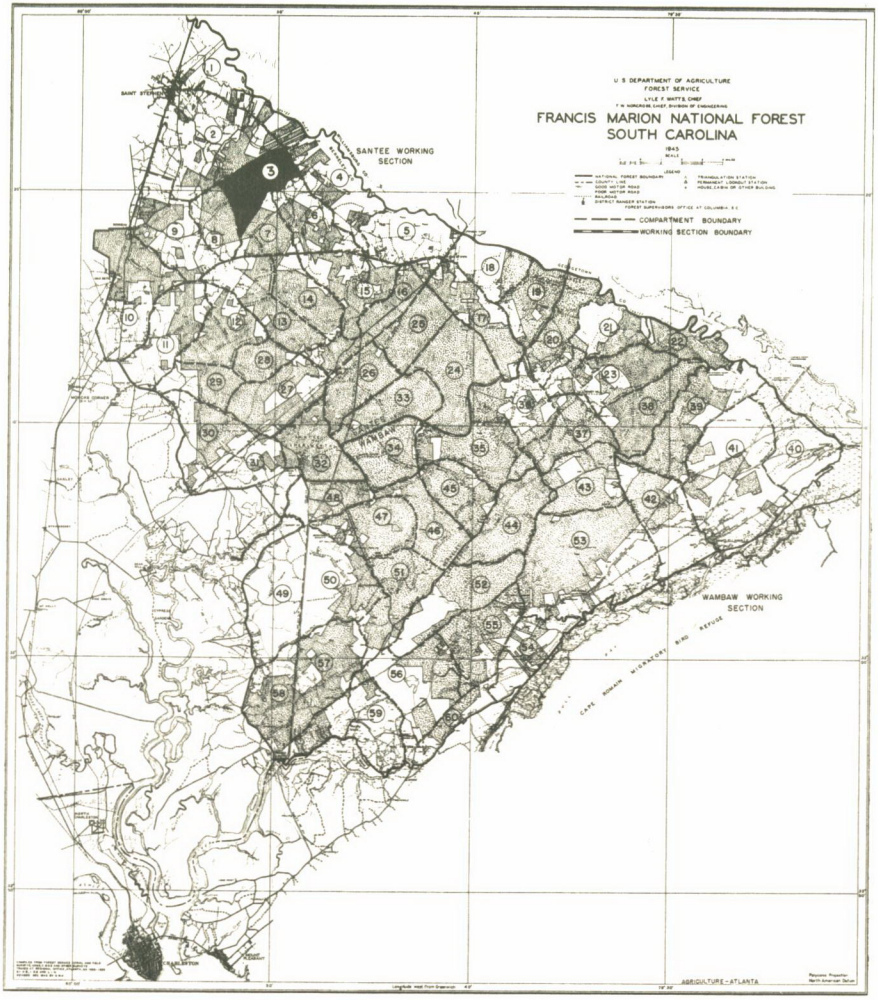
The second stated intention is to better the proportion of old timber, middle-aged timber, and young timber so that the future supply will be greater.

The third purpose is to provide continuous employment in local wood-using industries so far as that can be done by a sustained yield of forest products.

The fourth aim is to fit the production of timber to other desirable uses of a national forest such as hunting, fishing, grazing, and recreation.

Last, but not least, it is an aim of the Forest to demonstrate proper forest management to private owners.

COMPARTMENT MAP OF THE FRANCIS MARION NATIONAL FOREST

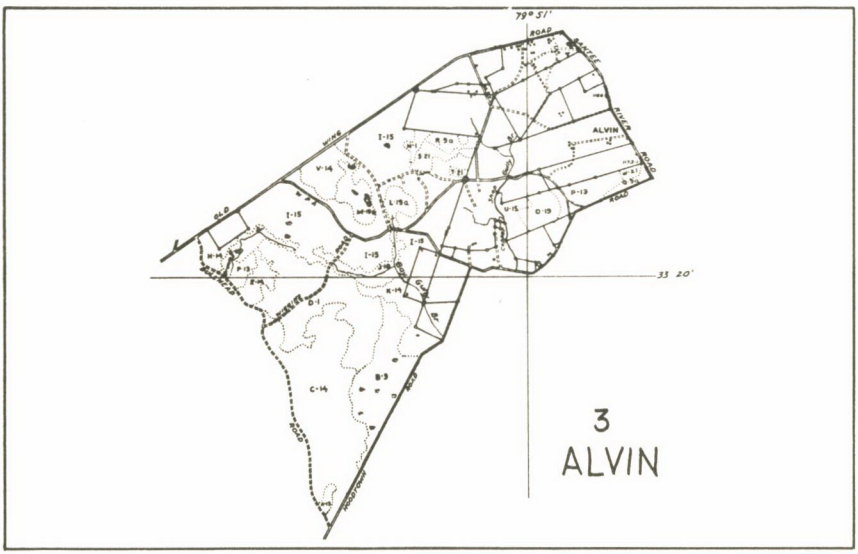


THE FOREST IS ORGANIZED FOR MANAGEMENT

Two hundred forty-five thousand acres is a lot of land. That area was purchased from many owners. Some tracts had timber; others were cut over. Some were hardwood swamps. Others were good pine land. Some areas were badly burned. The first job was to find out what timber was on the land.

The Forest was divided into 60 compartments, or local areas. These have numbers and names. The names, like Hell Hole, Walleye, Salt Pond and French Quarter, are place names familiar to local residents and local foresters.

Maps were made of these compartments. Each stand of trees, reasonably uniform as to age and kind, in every compartment was shown on the maps and notes made of its age, kind, and condition. The area of each stand was measured on the map. Cruises were made to find out how much timber there was by classes, such as old longleaf pine, old loblolly pine, pine pulpwood, hardwood sawtimber, etc. Growth plots, established 10 years earlier, were remeasured to find out how much timber the Forest was growing. All this information is needed to figure on that "continuous supply."



THIS IS ONE OF THE 60 COMPARTMENT MAPS

THE WAY THE CROP IS RAISED

"Timber is a crop." Everybody has heard that. But how do you make a crop of timber? It takes such a long time for the trees to grow. The trick is to have a whole series of crops from the youngest to the oldest. If the crops are in the right proportion, there will be "a continuous supply." The second trick is to tend each crop at the right time and to do the right thing.

This is what the management plan says should be done with the 180,000 acres which are in pine land.

The easiest place to start to describe how to tend the forest crop is with the youngest crop. This is the one which began in 1934 when the Forest Service started fire protection. With protection, over a hundred thousand acres of land reseeded, some 28,000 acres of it under the thin and cut-over older stands, and 72,000 acres of it in the open and free to grow. The years of hard fire fighting brought these seedlings up to their present age - 15 to 20 years - and almost large enough for pulpwood. Now that the saplings are large enough, prescribed fire has been used to reduce the excessive accumulations of fuels on the ground. The prescribed fire also killed back the understory of hardwood brush which grew up under the pine. This prescribed burning is difficult work. It can be done only under the right weather conditions, by skilled and careful men. The crop must still be protected from wild fire, of course.

The next older crop is 20 to 40 years old and is easily recognized as pulpwood-size timber. As soon as the second best trees are large enough, these stands are thinned for pulpwood, with a cutting of 6 to 8 cords per acre. The best trees are left to grow to sawtimber. All of this crop has been thinned once, and second and third thinnings will be made at intervals of 5 to 10 years. The District Rangers go over these stands periodically to check up on the need for thinning. The Francis Marion has 33,000 acres of this crop.

The third crop is the middle-aged timber, 40 to 60 years old. It is mostly small sawtimber. However, some of the longleaf is still too little for sawlogs. All of this crop has been thinned too, and will probably receive another cutting in 10 years. There are 23,000 acres of this crop. It's an important crop. Children now in school will make a living harvesting this crop.

The oldest crop is the timber 60 years of age and older. There are 52,000 acres of this crop, some of it thick and some of it pretty thin, with seedlings and saplings underneath. This is the crop to be harvested in the 20-year period from 1950 to 1970. Harvesting and re-seeding this crop is a most important operation. Like any other crop, pine needs a seed bed. The seed bed should be mineral soil, not pine needles. When seed sprouts the roots must get to the soil, so the accumulation of needles is carefully burned away by a prescribed fire. A supply of good seed is as necessary in seeding a crop of pine as it is in planting a crop of cotton. The seed must come from the trees themselves. The first step is to make a preparatory cutting 5 to 10 years before the area is to be reseeded. This cutting takes about half the stand and the trees removed are those beginning to decay, those with poor tops, and those which have been damaged. The seed should come from the best trees. When the seed cutting is made, four to twelve loblolly pines are left and the rest cut. With longleaf, 10 to 12 seed trees are left. For best results, the seed bed should be disked before logging.

The trees put down hundreds of thousands of seeds per acre. With a good seed bed, good weather, and no fire, thousands of seedlings will come up on each acre. The young loblolly seedlings cannot stand any fire and must not be burned.

The young longleaf seedling stays in the grass until the root stock grows to one inch in diameter. Then it starts height growth. While it is in the grass it suffers from brownspot needle disease. This is a fungus which kills the needles and starves the seedling. It could be sprayed, but the cost would be prohibitive. Instead, when the seedlings are 3 years old, a prescribed fire is used to burn away the diseased needles. Longleaf seedlings are fire-resistant and can withstand light fire under the right weather conditions. If the seedlings can be freed from the disease for a few years they will start height growth and shoot up beyond the range of the fungus disease. Longleaf seedlings must be protected from hogs, too. Hogs root up and eat the seedlings. Whole crops of longleaf have been wiped out by hogs. Sheep and goats eat longleaf buds. Sheep, hogs, and goats must be kept out of the woods.

To give the young crop full sun the longleaf seed trees are removed after the young crop is firmly established. Loblolly seed trees are left for 10 or 20 years as fire insurance.

THE YOUNGEST CROP HAS JUST HAD ITS FIRST PRESCRIBED BURN

THIS PULPWOOD STAND HAS JUST HAD ITS FIRST THINNING

Timber crops have weeds too. On pine lands, hardwood brush is a weed. If the weeds are dense enough they choke out the pine seedlings. Dealing with weeds is always hard work. The plans call for the periodic use of fire to kill back the hardwood brush all the while the pine crop is growing. At the time of re-seeding, extra efforts are made to control the brush with fire, girdling, and poisoning. The poisons used, by the way, are harmless to humans and animals.

To grow the size and quality desired for the "use and necessities of citizens of the United States," the Forest Service plans to grow pine timber to 80 years of age on the Francis Marion. Of course, some stands reach sawtimber size at 40 years of age, but big trees of high quality must be older than that. Besides, the longer rotation age means more trees in live storage and available for use if war or other emergency creates extra demands for timber products. The Francis Marion will always have a good reserve.

THE OLDEST CROP IS READY FOR HARVEST

SHARING THE PRESENT WITH THE FUTURE

"Continuous supply" requires successive crops of timber in about the same amount. In 180,000 acres of pine there should be equal areas, 45,000 acres each, of trees 1 to 20 years old, 21 to 40, 41 to 60 and 61 to 80. On the Francis Marion the actual areas are:

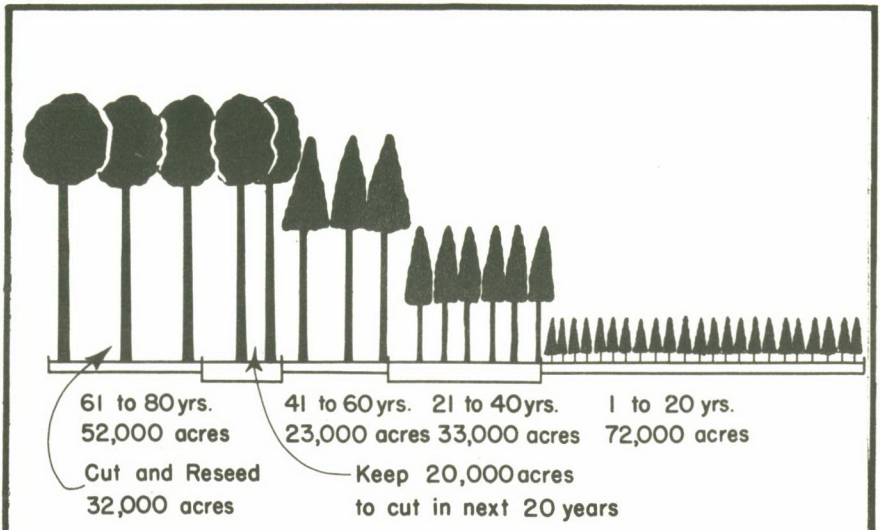
61 to 80 and over	52,000 acres	21 to 40	33,000 acres
41 to 60	23,000 acres	1 to 20	72,000 acres

The harvesting of each of these crops should be spread over a 20-year period. If we in this period, 1950 to 1970, cut all of the 52,000 acres of old timber, our children in 1970 to 1990 would have only 23,000 acres to harvest, or less than half as much. So the plan provides that the harvest in 1950 to 1970 will be limited to 32,000 acres and that 20,000 acres shall be saved for the next 20-year period.

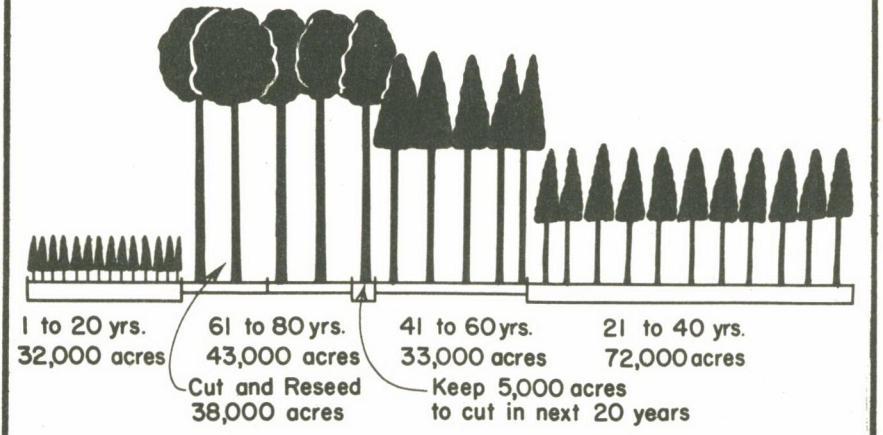
To look even farther ahead, the plan calculates that of the 43,000 acres available in the second period, only 38,000 acres should be harvested. Five thousand acres thus held over, plus the 33,000 acres in the 21-40 year age group, makes 38,000 acres available for the third 20-year period. This stabilizes and equalizes the cut over three 20-year periods and shares the present timber with future American citizens.

Of course the plan does not try to dictate what shall be done 60 years hence. It merely figures the effect, 20 to 40 years hence, of what we do now. That is the important thing, what we do now. And 60 years is not long in the life of the republic.

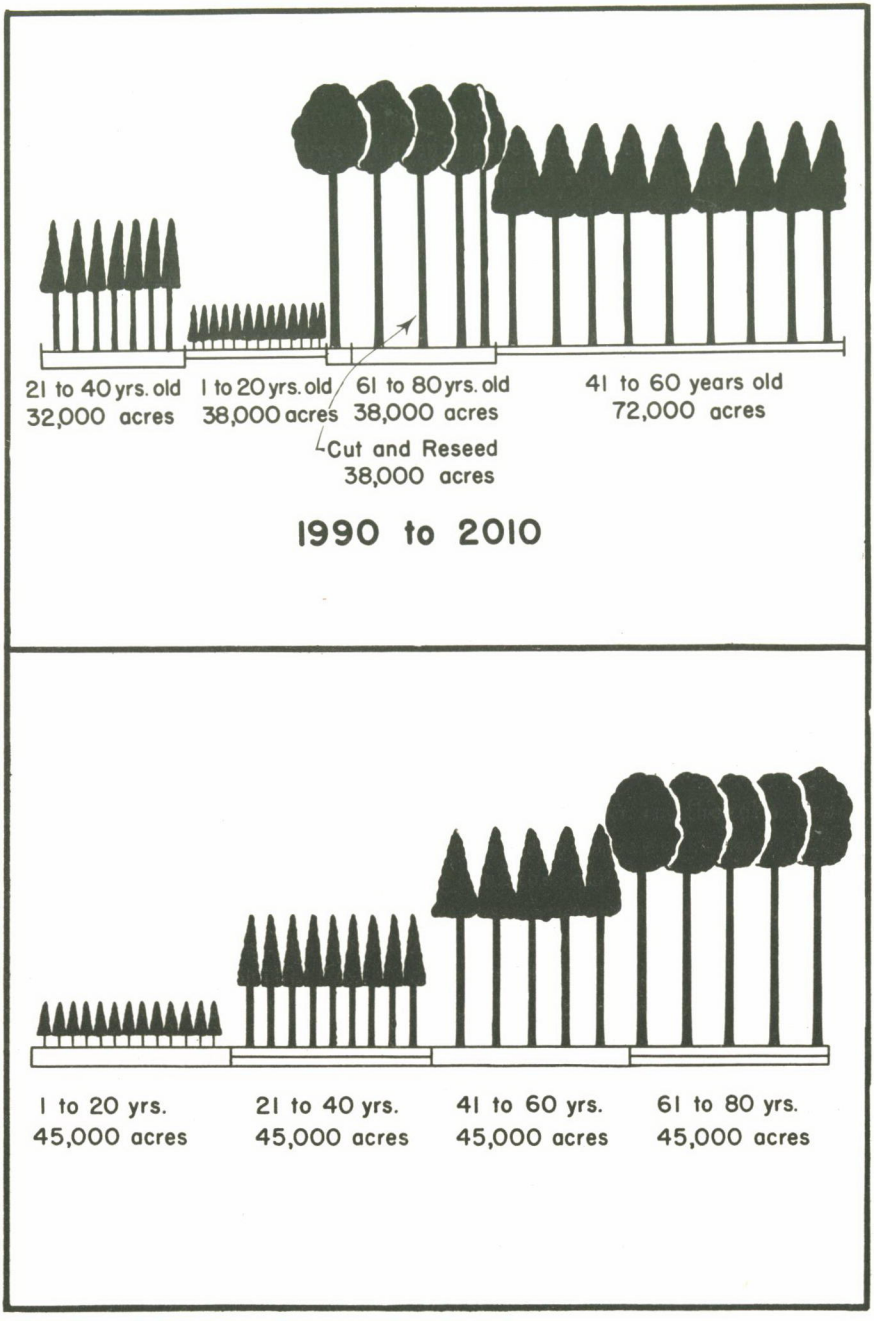
THE SEED CUTTING HAS BEEN COMPLETED



1950 to 1970



1970 to 1990



ULTIMATELY, THE BALANCED FOREST

MORE THAN TREES IN THE FOREST

The Francis Marion National Forest is one of the few places on the Eastern Seaboard where the pure native strain of wild turkey still exists. To preserve it, Congress passed an Act and the President issued a Proclamation in 1948 creating the 50,600 acre Francis Marion National Forest Wildlife Preserve. The Regulation of the Secretary of Agriculture prohibits hunting, fishing, camping, carrying firearms, or permitting dogs to run in the Preserve. By agreement with the State Game and Fish Department, the Preserve is also a Cooperative Game Management Area and is protected by State Game Wardens.

The Francis Marion has been famous for its deer. Wild turkey and deer are the natural game of the area. Happily, the methods used to grow timber are also well suited to the requirements of these two game species. A certain amount of prescribed burning provides openings and feed for turkey and browse for deer. The Francis Marion could become one of the most famous deer- and turkey-hunting areas in the country, if the laws and regulations designed to foster the game were more properly supported by the public.

OUR MOST SHAMEFUL WASTE

The use of prescribed fire in growing the pine crop should not cause anyone to misunderstand the need for continuous protection from wild fire nor to forget the severe damage wild fire can cause. Nor should anyone think that only seedlings and saplings are killed by wild fire. There are places on the Francis Marion where 60-year-old longleaf has been killed by wild fires.

This is our most shameful waste. In spite of all the years of teaching by forest rangers, there are still nearly 200 wild fires a year on the Francis Marion and most of them are incendiary. All the fine crops of timber and all the bright promise of a "continuous supply" of timber for the future are threatened each Spring by the thoughtless, the selfish, or the careless few who start wild fires. All the careful plans for growing the timber crop may be set at naught by the annual occurrence of wild fires.

Each year about 5,000 acres of the National Forest are burned and damaged by wild fires in spite of the towers, radios, tractor plows, tank trucks, rangers, wardens, and public-spirited citizens who turn out on call to fight the fires.

For the Francis Marion National Forest to succeed, the day must soon come when there will be no wild fires at all and the only burning will be the prescribed fires used by the foresters in raising the timber crops.

IN DOLLARS AND CENTS

National Forest timber is sold by the thousand board feet and by the cord, not by the acre. It is necessary, therefore, in the management plan to calculate about how much there is to sell and to compare this with the growth.

The first management-plan cruise in 1937 found 458 million board feet of sawtimber. From 1937 to 1947 nearly 111 million feet were cut, yet the inventory of 1947 showed that the Forest had 889 million feet of sawtimber. In 10 years, the volume of timber had been doubled by growth. The measurements of growth plots showed that the average annual growth for the past 10 years had been 195 board feet per acre. The current growth on the whole Forest is estimated to be 45 million feet a year.

The Forest is not yet mature enough to permit cutting the full growth. Therefore, the plan includes an estimate that the annual cut for the period 1950 to 1970 will average 30 million feet. It is expected that the cut will rise from the present 22 million gradually. The proportion of sawtimber and pulpwood will vary from time to time. When the present young crop becomes large enough, there will be a big job of thinning for pulpwood in order to work this big crop of 72,000 acres in 5 to 10 years. Generally speaking, from one-third to one-half of the annual cut will be in the form of pulpwood.

As most people know, the areas to be cut are selected by the District Rangers in accordance with the management plan. The Rangers and their Forestry Aides mark and measure the timber. The Ranger makes an appraisal, which is reviewed and approved by the Forest Supervisor, who then advertises the timber for sale as required by law. Sealed bids are received and publicly opened at the time set in the advertisement. The sale is awarded to the highest qualified bidder.

The timber is paid for in advance of cutting, and logging is done under the supervision of the Ranger. All of the money is paid to the Treasurer of the United States through the Forest Service Regional Fiscal Agent in Atlanta.

Each year 25% of the receipts are paid to the State Treasurer of South Carolina for distribution to Berkeley and Charleston Counties in proportion to the area of National Forest land in each county. This money is a National Forest contribution for

the support of roads and schools. The rate at which the 25% fund has been increasing shows the possibilities ahead for the National Forest. Here are the figures for three years:

	1940	1945	1950
Berkeley County	$9,725.03	$24,753.96	$79,747.71
Charleston County	3,319.17	7,760.20	25,008.88

Although all the costs of protecting and managing the Francis Marion National Forest are borne by the United States Government, the Forest repays a large part of the cost in receipts to the Treasury. For instance, in 1950, the Government spent $199,676.61 on the Francis Marion. The receipts amounted to $419,026.38. The two counties received $104,756.59 of the receipts. Balancing receipts against expenditures the Government had a net gain of $114,593.17 even after the counties received their share.

In addition to the 25% fund, 10% of the receipts are returned to the Forest for construction and maintenance of roads. We also received an appropriation for Forest Road Development. The expenditure for roads is the largest single item of expenditure. It amounts to about 20 cents an acre and equals or exceeds the expenditure for fire protection. Roads are essential to raising and harvesting a forest crop. Many of the roads are are not yet up to a satisfactory standard. Other roads, now maintained by the National Forest, are needed much more for public travel than they are for Forest use. Such roads should become part of the State Highway system or part of the county road system so that additional roads, badly needed for handling the forest crops, could be built and maintained by the National Forest.

SEE FOR YOURSELF

Much more important than the dollars-and-cents return to the Federal Treasury or even the return to the counties are the dollars and cents which circulate in trade as a result of National Forest timber sales. Each year this big crop of 20 to 30 million feet of sawlogs and pulpwood means payrolls in Berkeley and Charleston counties. Cutting and hauling, manufacturing and marketing the timber crop mean money from timber to every grocery store, filling station, hardware store, automobile dealer, and every other business. The management of this crop by the Forest Service as set forth in this plan insures that this is an annual and dependable crop.

Anyone driving through the National Forest can see many of the forest operations and can probably pick out the various crops of trees. With the help of this booklet many more operations can be understood. The District Rangers at McClellanville and Moncks Corner have picked out scores of stands, easily reached by roads, where the work can be explained in detail. Many students of forestry and practicing foresters visit the Forest each year to see what is being done. The District Rangers would be pleased to conduct parties of visitors on trips to show them "what the Government is doing with its forest land."

THE PRIME OBJECTIVE OF MANAGEMENT IS TO GROW HIGH QUALITY TIMBER